

HOT MIX ASPHALT
MULTIMEDIA GENERAL PERMIT
FACT SHEET

**For The Construction/Operation of
Air Emissions Equipment**

And

**Stormwater Discharges In Accordance
With The National Pollutant
Discharge Elimination System**

**Mississippi Department of Environmental Quality
Environmental Permits Division**

September 2, 1999

Table of Contents

	Page
Executive Summary	3
Internal Coordination	4
Public Participation	5
Background Information	6
General Permit Approach	7
Hot Mix Asphalt Multimedia General Permit	8
AP-42 Emissions Factors Tables	10
Example Calculations	12
Conversion Equations	13
Discussion of Permit Conditions	16
Permit Issuance and Announcement	16
Permit Fees	16
Stack Test Data Table	19
Regulations Appendix	34
NSPS Subpart I	
NSPS Subpart Kb	
NSPS Subpart OOO	
NSPS Subpart A	
APC-S-2	
Standards for the Management of Used Oil	

Executive Summary

This general permit was developed for Hot Mix Asphalt facilities, drum or batch mix, which fall under standard industrial classification code (SIC) 2951. This is a multi-media general permit that has both air and water components. The permit covers construction and operation of air emissions equipment, storm water discharges associated with industrial activities and storm water discharges associated with construction activities disturbing five or more acres.

To be eligible for coverage under this general permit the facility must be a true minor or a synthetic minor air emission source, must comply with all applicable requirements of New Source Performance Standards, and must be equipped with a baghouse.

Internal Coordination

During the drafting of this permit the General Permits Branch coordinated with and received numerous valuable comments and recommendations from the Chief of the Environmental Permits Division (Jerry Cain), Environmental Compliance and Enforcement Division (Don Watts and Andrew Covington), Air Division (Wayne Anderson), Energy Construction, Misc. Manufacturing Branch (Maya Rao), and the Timber and Wood Products, Misc. Industrial Branch (Brad Shanks).

Public Participation

On August 3, 1999, the draft permit, NOI form and the fact sheet was given to Mr. Tone S. Garrett, Executive Director of the Mississippi Asphalt Pavement Association, Inc. for review and comments by their technical committee.

On August 3, 1999, the draft permit, NOI form and the fact sheet was sent to Mr. Roosevelt Childress, Chief of the Surface Water Permits Section of Environmental Protection Agency (EPA) for their review and comments.

On August 24, 1999, the draft permit, NOI form and the fact sheet was sent to Ms. Marla H. Speed, Mississippi Wildlife Federation for their review and comments.

On November 16, 1999 a public hearing was held at the MS DEQ at 7:00 p.m.

Background Information

Air Emissions

In 1970, the U.S. Congress passed the Clean Air Act for air pollution and subsequently, State governments followed suit to meet federal requirements. The purpose of the Act is the protection of the environment and public health and safety. This is accomplished by establishing the National Ambient Air Quality Standards (NAAQS). NAAQS requires construction and operating permits (both State and/or Federal) for the emission of any air pollutants to the atmosphere regulated under the Act. For Mississippi, by bringing all sources under a permit, it is assumed that the NAAQS have inherently been met. Part of the 1970 Clean Air Act directed EPA to establish federal New Source Performance Standards found in 40 CFR Part 60. Subsequently, the Standards of Performance for Hot Mix Asphalt Facilities, NSPS regulations, 40 CFR 60, Subpart I, were promulgated.

Storm Water Discharges

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of any pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits are issued by the United States Environmental Protection Agency (USEPA), or by state agencies which have been delegated NPDES permit authority by USEPA.

In 1987, Congress added section 402(p) to the Clean Water Act to establish a comprehensive framework for addressing municipal and industrial stormwater discharges under the NPDES permit program. Section 402(p)(4) of the Clean Water Act clarifies the requirement for USEPA and delegated state agencies to issue NPDES permits for stormwater discharges associated with industrial activity.

On November 16, 1990, USEPA published final regulations on stormwater. Additional rules related to stormwater permitting were published on April 2, 1992. The goals of these stormwater regulations are to:

- Establish a permit system for stormwater discharged from industrial and construction sites;
- Eliminate water quality standards violations caused by stormwater discharges;
- Reduce the amount of pollutants washed off in stormwater discharges; and
- Stop the illegal discharge of waste waters and other pollutants into storm drains.

The federal regulations require an NPDES permit for listed industrial facilities and those construction activities which will disturb five or more acres of land, that discharge “stormwater associated with industrial activities” directly to surface waters, or indirectly through municipal storm drains. The regulation include a definition of “stormwater associated with industrial activity,” and a listing of application requirements for stormwater permits.

The USEPA regulations allow state agencies which have been delegated NPDES permit authority to issue individual permits and general permits to regulate the discharge of stormwater. The Mississippi DEQ, as a delegated NPDES state agency, is responsible for implementing the USEPA requirements for stormwater permits in Mississippi.

Mississippi DEQ issued its baseline stormwater general permit on July 14, 1992, which covers industrial activities. Mississippi DEQ also issued its construction stormwater general permit on July 14, 1992, which covers construction activities that disturbed 5 or more acres.

General Permit Approach

Mississippi DEQ is extending the general permit approach beyond industrial/construction stormwater permitting to include air permitting. One of the principle reasons in developing this permit was the efficient method of handling a large number of similar facilities in the State with only a single permit being issued to cover air emissions and industrial/construction stormwater discharges. There are approximately 75 hot mix asphalt facilities that will be eligible for coverage under this permit. A general permit is consistent with USEPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by EPA in designing a workable and reasonable permitting system.

This general permit is divided into six sections:

- Coverage eligibility and authorization;
- NOI requirements;
- Construction and operation of air emissions equipment;
- Storm water discharge associated with industrial activities;
- Storm water discharge associated with construction activities disturbing five or more acres;
- Standard conditions typical of NPDES permits.

Hot Mix Asphalt Multimedia General Permit

What and Who is covered by this General Permit.

This General Permit was developed for Hot Mix Asphalt (HMA) facilities (Standard Industrial Classification Code (SIC) 2951) that are either a Drum or Batch mix design. The following are specifications that the HMA facility must meet in order to be eligible for coverage under the HMA General Permit:

- Utilization of a baghouse for control of emissions from the dryer;
- If a lime silo is present on site it must be be equipped with a baghouse for control of emissions ~~vented to the dryer's baghouse;~~
- Drum Mix plants are limited to a maximum of 500,000 tons/yr of production;
- Batch Mix plants are limited to a maximum of 360,000 tons/yr of production;
- Maximum rock crushing capacity is 200 tons/hr;
- Non-Title V facilities (facilities that have a total of less than 100 tons/year of any one pollutant except 25 tons/year total HAPS/10 tons/year of any one HAP);
- Natural gas fired, propane fired, fuel oil fired, or on-specification used oil fired dryers;
- 2000 hours per year of total operation on rock crushers or 400,000 tons/yr;
- Sulfur content of fuels shall be less than 1 percent.

The above items are based on information obtained from existing federal and state regulations, emission calculations, other State Environmental Agencies, and Best Professional Judgement gathered from regulatory programs within Mississippi. The above items have been determined to limit a facilities emissions to less than 100 tons/year of an air pollutant.

The 500,000 tons/yr and the 360,000 tons/yr production limits mentioned above were calculated as a maximum limit of production in order that the facility would be non-Title V. These limits would allow the use of all types of fuel and still have total emissions less than 100 tons/yr. Production limits are used to limit the tons per year on emissions of particulate matter, carbon monoxide, nitrogen oxide, sulfur dioxide, and volatile organic compounds to less than 100 tons/year.

Regulations (NSPS) and Emissions Information:

Particulate Matter emission limitation for the dryer are based on NSPS PM limitation of 0.04 grains/dscf and an air flow from the dryer of 35,000 dscf/min. Based on a review of stack test reports for asphalt facilities in the state, we have established 35,000 dscf/min as a representative air flow. See "Stack Test Data" table page 19.

Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources consists of information that gives a brief descriptions of processes, potential sources of air emissions from the processes and in many cases common methods used to control these air emissions. Methodologies for estimating the quantity of air pollutant emissions are presented in the form of Emission Factors.

AP-42 Emission factors (see page 10 & 11 of fact sheet) were used in determining expected potential emissions from the hot mix asphalt plant and all associated equipment.

- AP-42, Table 11.1-5 (natural gas fired dryer (fabric filter)) was used to determine the NOX, CO, SO2, and VOC emissions utilizing the production limits mentioned above if the facility is using natural gas as fuel
- AP-42, Table 11.1-5 (oil fired dryer (fabric filter)) was used to determine the PM, NOX, CO, SO2, and VOC emissions utilizing the production limits mentioned above if the facility is using oil fuels as fuel.
 - AP-42, Table 11.19-2 (crushed stone processing) was used to determine the particulate matter emissions associated with the rock/RAP crushers. Emission factors for screening (0.15 lb/ton) and tertiary crushing (0.036 lb/ton) were used to determine the total particulate matter emissions from the unit. Transfer points were determined to be fugitive and therefor not used in calculating emissions from the rock crusher unit. Fugitive emissions are defined as emissions that cannot be easily captured and vented through a stack.

Rock Crusher Limitation:

1. Maximum Rock and RAP crushing capacity is set at 200 tons per hour or 2000 hours per year
2. No maximum ton per hour capacity and a total production of 400,000 tons per year.

We recommend using 200 tons per hour or 2,000 hours per year, for compliance reasons and ease of monitoring.

Regulations applicable to HMA facility (Subparts of NSPS):

40 CFR 60 Subpart I- Standards of Performance for Hot Mix Asphalt Facilities that commenced construction or modification after June 11, 1973.

- 40 CFR 60.92; Standards for particulate matter
 - 0.04 grains/dry standard cubic foot (dscf)
 - 20 percent opacity

40 CFR 60 Subpart OOO- Standards of Performance for Nonmetallic Mineral Processing Plants that commence construction, reconstruction or modification after August 31, 1983 and have a capacity of 25 tons/hr or more for fixed rock crushing plants or 150 tons/hr or more for portable rock crushing plants.

- 40 CFR 60.672; Standards for particulate matter
 - 60.672(2)(b), 10 percent opacity from transfer points on belt conveyors
 - 60.672(2)(c), 15 percent opacity from the crusher which does not have a capture system present.

Mississippi Regulation APC-S-2, II.B.15(c) states that all sources of air emissions at asphalt plants utilizing best available technology for the control of air contaminants must be at least 600 feet from the nearest residential, recreational or light commercial area. This is measured from the property line of the residential, recreational or light commercial area to the nearest emission source.

40 CFR 60 Subpart Kb- Standards of Performance for Volatile Organic Liquid Storage Vessels- for vessels 10,567 gallons or larger that were constructed, reconstructed, or modified after July 23, 1984, and storing volatile organic liquids, these tanks are subject to and shall comply with all applicable standards of the NSPS as described in 40 CFR 60.110b Subpart Kb- Standards of Performance for Volatile Organic Liquid Storage Vessels. Specifically, if the storage vessels are greater than or equal to 10,567 gallons but less than 19,813 gallons, the coverage recipient shall keep records for the life of the source showing the dimension of the storage vessel, an analysis showing the capacity of the storage vessel, and the content of the storage vessel.

This Fact Sheet contains:

- a copy of AP-42 emission factors for rock crushers, asphalt plants, fuel oil combustion and natural gas combustion in heaters;
- NSPS Subpart I for asphalt plants;
- NSPS Subpart OOO for rock crushers;
- NSPS Subpart A;
- NSPS Subpart Kb.

Drum Mix Asphalt Plant, AP-42 Emissions Factor Tables

AP-42 Table 11.1-5 Natural Gas fired dryer (fabric filter)	Em. Factor lb/ton
PM	0.0140
PM10	0.0045
CO	0.0560
NOX	0.0300
VOC	0.0510
SO2	0.0033

Natural Gas Combustion from heaters	Em. Factor
AP-42 Table 1.4	lb/10⁶ scf
PM	4.5
PM10	4.5
CO	21
NOX	100
VOC	5.8
SO2	0.6

AP-42 Table 11.1-5 Oil Fired dryer (fabric filter)	Em. Factor lb/ton
PM	0.0140
PM10	0.0045
CO	0.0360
NOX	0.0750
VOC	0.0690
SO2	0.0560

Distillate No. 2 fuel oil

Fuel Oil Combustion from heaters	Em. Factor
AP-42 Table 1.3	lb/10³ gal
PM	2.00
PM10	2.00
CO	5.00
NOX	20.00
VOC	0.56
SO2	142.00

ROCK CRUSHER

AP-42 Table 11.19.2 Crushed Stone Processing	
Primary Crushing, (uncontrolled) screening/tertiary crushing factor combined	Em. Factor lb/ton
	0.186
	0.186

Fuel	Heat Contents
Fuel Oil	140,000 btu/gal
Natural Gas	1,000 btu/scf

RAP CRUSHER

AP-42 Table 11.19.2 Crushed Stone Processing	
screening/tertiary crushing factor combined	Em. Factor lb/ton
	0.186
	0.186

Batch Mix Asphalt Plant, AP-42 Emissions Factor Tables

AP-42 Table 11.1-5 Natural Gas fired dryer (fabric filter)	Em. Factor lb/ton
PM	0.0400
PM10	0.0160
CO	0.3400
NOX	0.0250
VOC	0.0510
SO2	0.0050

Natural Gas Combustion from heaters	Em. Factor lb/10⁶ scf
AP-42 Table 1.4	
PM	4.5
PM10	4.5
CO	21
NOX	100
VOC	5.8
SO2	0.6

AP-42 Table 11.1-5 Oil Fired dryer (fabric filter)	Em. Factor lb/ton
PM	0.0400
PM10	0.0160
CO	0.0690
NOX	0.1700
VOC	0.0460
SO2	0.2400

Distillate No. 2 fuel oil

Fuel Oil Combustion from heaters	Em. Factor lb/10³ gal
AP-42 Table 1.3	
PM	2.00
PM10	2.00
CO	5.00
NOX	20.00
VOC	0.56
SO2	142.00

ROCK CRUSHER

AP-42 Table 11.19.2 Crushed Stone Processing	
Primary Crushing, (uncontrolled)	
Screening/tertiary crushing factor combined	0.186
	0.186

Fuel	Heat Contents
Fuel Oil	140,000 btu/gal
Natural Gas	1,000 btu/scf

RAP CRUSHER

AP-42 Table 11.19.2 Crushed Stone Processing	
Screening/tertiary crushing factor combined	0.186
	0.186

Example Calculations

Information Given:

For this example we will show that this example facility qualifies for coverage under this General Permit

- Batch mix plant with a maximum hourly capacity of **500 ton/hr.**
- The asphalt plant uses **natural gas as fuel.**
- With a rock crusher present with a maximum hourly crushing capacity of **175 ton/hr.**
- A RAP crusher with a maximum hourly crushing capacity of **25 tons/hr.** (for the general permit the total rock/RAP crushing can not exceed 200 tons/hr)
- The lime silo is equipped with a baghouse for control of emissions not a separate source of air emissions because it is vented to the dryer's baghouse. Assuming 90% control efficiency worse case.
- A liquid asphalt tank heater with a burner size of **2.0 mmbtu/hr.**

To calculate emissions from the asphalt plants dryer's baghouse we use **AP-42 Table 11.1-5, Natural Gas Fired Dryer (fabric filter).** PM/PM10 emissions from the dryer are based on NSPS Subpart I limit of 0.04 grains per dscf. From the table we see that the emission factors are 0.34 lbs/ton for Carbon Monoxide (CO), 0.025 lbs/ton for Nitrogen Oxides (NOX), 0.051 lbs/ton for Volatile Organic Compounds (VOC), and 0.005 lbs/ton for Sulfur Dioxide (SO2).

Lbs/ton means pounds of pollutant per ton of asphalt produced.

Assume air flow from the dryer to be 35,000 dscf/min

PM allowed by NSPS is calculated as follows:

PM allowed by NSPS = (0.04 grain/dscf)(1 lb/7000 grains)(35,000 dscf/min)(60min/1hour) = 12 lbs/hr
12 lbs/hr X 8760 hours/yr divided by 2000 lbs/ton = 52.56 tons/yr. See Conversion Equations on page 15.

For informational purposes the hourly emissions from the dryer are calculated as follows:

500 ton/hr	X	0.34	lbs/ton =	170.0	lbs per hour of CO
500 ton/hr	X	0.025	lbs/ton =	12.50	lbs per hour of NOX
500 ton/hr	X	0.051	lbs/ton =	25.50	lbs per hour of VOC
500 ton/hr	X	0.005	lbs/ton =	2.50	lbs per hour of SO2

Annual allowable emission rate based on a maximum annual production rate of 360,000 tons of asphalt production per year:

0.34 lbs/ton	/	2000 lbs/ton	X	360,000 tons/yr =	61.20	tons/yr CO
0.025 lbs/ton	/	2000 lbs/ton	X	360,000 tons/yr =	4.50	tons/yr NOX
0.051 lbs/ton	/	2000 lbs/ton	X	360,000 tons/yr =	9.18	tons/yr VOC
0.005 lbs/ton	/	2000 lbs/ton	X	360,000 tons/yr =	0.90	tons/yr SO2

Emissions from the rock crusher are calculated using AP-42 Table 11.19.2:

Emission Factor of **0.186 lbs of PM per ton of rock crushed**

200 ton/hr rock crusher X 0.186 lbs/ton = 37.2 lbs/hr of PM

Maximum operation of the rock crusher is limited to 2,000 hours per year.

37.2 lbs/hr PM X 2000 hours/year = 74400 lbs/year maximum allowable PM or
37.2 tons/year maximum allowable PM

Emission from the liquid asphalt heater are calculated using AP-42 Table 1.4

2.0 mmbtu/hr burner size of the heater.

Heat content of natural gas is 1000 btu/scf

From the table, the emission factors are:

PM	4.5	Lb/10 ⁶ scf
PM10	4.5	Lb/10 ⁶ scf
CO	21	Lb/10 ⁶ scf
NOX	100	Lb/10 ⁶ scf
VOC	5.8	Lb/10 ⁶ scf
SO2	0.6	Lb/10 ⁶ scf

2 mmbtu/hr is equivalent to 2,000,000 btu/hr

10⁶ scf is equivalent to 1,000,000 scf

2,000,000 btu/hr divided by 1000 btu/scf (heat content of natural gas) = 2,000 scf per hour of natural gas usage.

2,000 scf/hr (natural gas usage)	X 4.5 lbs/10 ⁶ scf (emission factor)	= 0.01 lb/hr PM or 0.04 ton/yr
2,000 scf/hr (natural gas usage)	X 4.5 lbs/10 ⁶ scf (emission factor)	= 0.01 lb/hr PM10 or 0.04 ton/yr
2,000 scf/hr (natural gas usage)	X 21 lbs/10 ⁶ scf (emission factor)	= 0.04 lb/hr CO or 0.18 ton/yr
2,000 scf/hr (natural gas usage)	X 100 lbs/10 ⁶ scf (emission factor)	= 0.20 lb/hr NOX or 0.88 ton/yr
2,000 scf/hr (natural gas usage)	X 5.8 lbs/10 ⁶ scf (emission factor)	= 0.01 lb/hr VOC or 0.05 ton/yr
2,000 scf/hr (natural gas usage)	X 0.6 lbs/10 ⁶ scf (emission factor)	= 0.0 lb/hr SO2 or 0.01 ton/yr

0.01 lb/hr PM X 8760 hrs/yr divided by 2000 lbs/ton = 0.04 ton/yr PM

Emissions from Lime Silo equipped with a baghouse:

Assume efficiency from the baghouse is 90%. Lime usage is based on 1% of asphalt production.

So, 500 tons/hr asphalt production uses 5 lbs/hr lime.

Efficiency = (input – output)/ input

90% = (5 – output)/5 solving for unknown (**output**) we get 0.5 lbs/hr out of baghouse exhaust and 2.19 tons/yr pm

Total Emissions from the Asphalt Plant can be calculated by adding the dryer, liquid asphalt heaters, rock crusher, and RAP crusher. (All PM10 is assumed to be PM)

PM from Dryer	52.56 tpy	PM10 from Dryer	52.56 tpy
PM from Rock Crusher	37.2 tpy	PM10 from Rock Crusher	37.2 tpy
PM from heater	0.04 tpy	PM10 from heater	0.04 tpy
PM from lime silo	2.19 tpy	PM10 from lime silo	2.19 tpy
Total PM from facility	92.0 tpy	Total PM10 from facility	92.0 tpy
CO from Dryer	61.20 tpy	NOX from Dryer	4.5 tpy
CO from heater	0.18 tpy	NOX from heater	0.88 tpy
Total CO from facility	61.38 tpy	Total NOX from facility	5.38 tpy
VOC from Dryer	9.18 tpy	SO2 from Dryer	0.9 tpy
VOC from heater	0.05 tpy	SO2 from heater	0.01 tpy
Total VOC from facility	9.23 tpy	Total SO2 from facility	0.91 tpy

The following table covers total air emissions for Drum Mix and Batch Mix Hot Mix Asphalt Plants. These emissions are calculated following the example calculations provided on pages 9 and 10 of this document.

Batch Mix, 360,000 tons/yr HMA production

* To determine total emissions, we sum each column noting that we only sum the dryer and heater once depending on what type of fuel is being used.

	PM Ton/yr	PM10 Ton/yr	CO Ton/yr	NOX Ton/yr	VOC Ton/yr	SO2 Ton/yr
Natural gas fired dryer (fabric filter) NSPS	52.56	52.56	61.20	4.5	9.18	0.9
Oil fired dryer (fabric filter) NSPS	52.56	52.56	12.42	30.6	8.28	43.2
Rock/RAP Crusher	37.2	37.2				
Natural Gas combustion from heaters	0.04	0.04	0.18	0.88	0.05	0.01
Fuel oil combustion from heaters	0.13	0.13	0.31	1.25	0.03	8.89
Lime silo with baghouse	2.19	2.19				
Total Emissions *	92.08	92.08	60.00	32.73	9.02	52.09

Drum Mix, 500,000 tons/yr HMA production

	PM Ton/yr	PM10 Ton/yr	CO Ton/yr	NOX Ton/yr	VOC Ton/yr	SO2 Ton/yr
Natural gas fired dryer (fabric filter) NSPS	52.56	52.56	14.0	7.5	12.75	0.83
Oil fired dryer (fabric filter) NSPS	52.56	52.56	9.0	18.75	17.25	14.0
Rock Crusher	37.2	37.2				
Natural Gas combustion from heaters	0.04	0.04	0.18	0.88	0.05	0.01
Fuel oil combustion from heaters	0.13	0.13	0.31	1.25	0.03	8.89
Lime silo with baghouse	2.19	2.19				
Total Emissions *	92.08	92.08	14.5	20.88	17.34	22.89

* To determine total emissions, we sum each column noting that we only sum the dryer and heater once depending on what type of fuel is being used.

Conversion Equations

From gr/dscf to lb/hr

Given:	Stack diameter	D	feet
	Stack gas exit velocity	v	feet/sec
	Stack gas exit temperature	T	°F
	Stack gas moisture content	B _{ws}	%
Standards:	Standard Temperature	T _s	= 68 °F
	Standard Pressure	P _s	= 1 atm
	Concentration	1 pound (lb)	= 7000 grains (gr)
Assume:	Stack gas exit pressure	= Atmospheric pressure	= 1 atm
	P _a	= P _{atm}	= 1 atm

Many times stack gas moisture content is not given, assume 10% to 20% as a starting point; then use judgement from there. Many times old stack testing reports are on file and can be used for a starting point.

Calculate actual volumetric flowrate, Q_a:

$$\begin{aligned}
 Q_a &= (\text{stack exit area}) * (\text{stack gas exit velocity}) \\
 &= (\pi / 4 * D^2) \text{ ft}^2 * (v) \text{ ft/sec} \\
 &= \text{_____ acf/sec}
 \end{aligned}$$

Covert from actual (acf) to standard (scf) flowrate:

(Since most regulation allowables are based on standard temperature and pressure)

Based on the ideal gas law:

$$\begin{aligned}
 \text{Where: } a &= \text{actual} \\
 s &= \text{standard}
 \end{aligned}$$

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} \quad \text{or} \quad \frac{P_s V_s}{T_s} = \frac{P_a V_a}{T_a}$$

$$\text{Therefore: standard flowrate } V_s = \frac{V_a T_s}{T_a} \quad \text{or} \quad V_s (\text{scf/sec}) = \frac{V_a (460 + 68)}{(460 + T_a)}$$

Convert from wet conditions to dry conditions for standard exit gas flow rate:

$$\frac{\text{dry}}{\text{actual}} = V_s * \left(1 - \frac{B_{ws}}{100} \right)$$

Final Calculation:

$$\frac{\text{gr}}{\text{dscf}} * \frac{V_a (460 + 68) \text{ ascf}}{(460 + T_a) \text{ sec}} * (1 - \frac{B_{ws} \text{ dry}}{100}) * \frac{\text{lb 3600 sec}}{\text{actual 7000 gr}} = \underline{\hspace{2cm}} \text{ lb/hr}$$

Scf	standard cubic feet (volume of gas measurement)
Dscf	dry standard cubic feet
PM/PM10	particulate matter/ particulate matter 10 microns diameter
NOX	nitrogen oxides
CO	carbon monoxide
SO2	sulfur dioxide
VOC	volatile organic compounds
Grains/dscf	mass of pollutant per volume of exhaust gas
HMA	hot mix asphalt
SIC	standard industrial classification
Lb/ton	pounds of pollutant per ton of production
Lb/10 ⁶ scf	pounds of pollutant per 1,000,000 cubic feet of gas
Lb/10 ³ gal	pounds of pollutant per 1,000 gallons of fuel
Mmbtu/hr	heat rating of a fuel burner (heater rated capacity)
DEQ	Department of Environmental Quality

Discussion of Permit Conditions

Notice of Intent (application) deadline:

- For new sources desiring coverage under this general permit, a NOI form shall be submitted at least 60 days prior to the commencement of the regulated activity.
- For an existing facility covered by this general permit, the NOI shall be amended to include any proposed construction activities subject to the construction storm water requirements or air emission requirements of this permit at least 30 days prior to commencement of the regulated activity.

Complete and appropriately signed NOI forms must be submitted to:

**Chief, Environmental Permits Division
Office of Pollution Control, MS Dept of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385**

Permit Issuance and Announcement

Mississippi DEQ intends to issue this permit on or before December 1, 1999. The terms and conditions of the permit are subject to appeal by any person within 30 days after its issuance.

Permit Fees

There are currently no fees associated with obtaining coverage under this General Permit.

Stack Test Data Table

Regulations Appendix

Subpart I

Standards of Performance for Hot Mix Asphalt Facilities

' 60.90 Applicability and designation of affected facility.

- (a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.
- (b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

' 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in Subpart A of this part.

- (a) Hot mix asphalt facility means any facility, as described in ' 60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

' 60.92 Standard for particulate matter.

- (a) On and after the date on which the performance test required to be conducted by ' 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

- (1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).
- (2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

' 60.93 Test methods and procedures.

- (a) In conducting the performance tests required in ' 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in ' 60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in ' 60.92 as follows:
 - (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
 - (2) Method 9 and the procedures in ' 60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

Subpart Kb

Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

Source: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

' 60.110b Applicability and designation of affected facility.

- (a) Except as provided in paragraphs (b), (c), and (d) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 40 cubic meters (10,567 gallons) that is used to store volatile organic liquids (VOL's) for which construction, reconstruction, or modification is commenced after July 23, 1984.
- (b) Except as specified in paragraphs (a) and (b) of ' 60.116b, storage vessels with design capacity less than 75 m³ (19,813 gallons) are exempt from the General Provisions (part 60, subpart A) and from the provisions of this subpart.
- (c) Except as specified in paragraphs (a) and (b) of ' 60.116b, vessels either with a capacity greater than or equal to 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kPa (0.508 psia) or with a capacity greater than or equal to 75 m³ (19,813 gallons) but less than 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 15.0 kPa (2.18 psia) are exempt from the General Provisions (part 60, subpart A) and from the provisions of this subpart.
- (d) This subpart does not apply to the following:
 - (1) Vessels at coke oven by-product plants.
 - (2) Pressure vessels designed to operate in excess of 204.9 kPa (29.72 psig) and without emissions to the atmosphere.
 - (3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.
 - (4) Vessels with a design capacity less than or equal to 1,589.874 m³ (420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer.
 - (5) Vessels located at bulk gasoline plants.
 - (6) Storage vessels located at gasoline service stations.
 - (7) Vessels used to store beverage alcohol.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

' 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

- (a) Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day (19,998 gallons per day). Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.
- (b) Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.
- (c) Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

- (d) Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.
- (e) Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.
- (f) Maximum true vapor pressure means the equilibrium partial pressure exerted by the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:
 - (1) In accordance with methods described in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference-see ' 60.17); or
 - (2) As obtained from standard reference texts; or
 - (3) As determined by ASTM Method D2879-83 (incorporated by reference-see ' 60.17);
 - (4) Any other method approved by the Administrator.
- (g) Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323-82 (incorporated by reference-see ' 60.17).
- (h) Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.
- (i) Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.
- (j) Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:
 - (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors; or
 - (2) Subsurface caverns or porous rock reservoirs.
- (k) Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds into the atmosphere except those VOL's that emit only those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone. These compounds are identified in EPA statements on ozone abatement policy for SIP revisions (42 FR 35314, 44 FR 32042, 45 FR 32424, and 45 FR 48941).
- (l) Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

' 60.112b Standard for volatile organic compounds (VOC).

- (a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ (39,890 gallons) containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa (0.754 psia) but less than 76.6 kPa (11.11 psia) or with a design capacity greater than or equal to 75 m³ (19,813 gallons) but less than 151 m³ (39,890 gallons) containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa (4.00 psia) but less than 76.6 kPa (11.11 psia), shall equip each storage vessel with one of the following:
- (l) A fixed roof in combination with an internal floating roof meeting the following specifications:
- (i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

- (ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (A) A foam-or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam-or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
 - (B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
 - (C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
- (iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- (iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.
- (v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
- (vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
- (vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
- (viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.
- (ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
- (2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

- (i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.
 - (A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in ' 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.
 - (B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in ' 60.113b(b)(4).
 - (ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.
 - (iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.
- (3) A closed vent system and control device meeting the following specifications:
- (i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, ' 60.485(b).
 - (ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (' 60.18) of the General Provisions.
- (4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in ' 60.114b of this subpart.
- (b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m³ (19,813 gallons) which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa (11.11 psia) shall equip each storage vessel with one of the following:
- (1) A closed vent system and control device as specified in ' 60.112b(a)(3).
 - (2) A system equivalent to that described in paragraph (b)(1) as provided in ' 60.114b of this subpart.

' 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in ' 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of ' 60.112b.

- (a) After installing the control equipment required to meet ' 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:
 - (1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.
 - (2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in ' 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
 - (3) For vessels equipped with a double-seal system as specified in ' 60.112b(a)(1)(ii)(B):
 - (i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or
 - (ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.
 - (4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.
 - (5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the

Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

- (b) After installing the control equipment required to meet ' 60.112b(a)(2) (external floating roof), the owner or operator shall:
- (1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.
 - (i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.
 - (ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.
 - (iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.
 - (2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:
 - (i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.
 - (ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm (0.126 inches) diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.
 - (iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.
 - (3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.
 - (4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4)(i) and (ii) of this section:
 - (i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm^2 (32.86 in^2) per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm (1.5 inches).

- (A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm (24.02 inches) above the stored liquid surface.
 - (B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.
- (ii) The secondary seal is to meet the following requirements:
 - (A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.
 - (B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter (1.00 in² per foot) of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (0.5 inches).
 - (C) There are to be no holes, tears, or other openings in the seal or seal fabric.
- (iii) If a failure that is detected during inspections required in paragraph (b)(1) of ' 60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in ' 60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
- (5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.
- (6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.
 - (i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

- (ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.
- (c) The owner or operator of each source that is equipped with a closed vent system and control device as required in ' 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from ' 60.8 of the General Provisions and shall meet the following requirements.
 - (1) Submit for approval by the Administrator as an attachment to the notification required by ' 60.7(a)(1) or, if the facility is exempt from ' 60.7(a)(1), as an attachment to the notification required by ' 60.7(a)(2), an operating plan containing the information listed below.
 - (i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C (1500.8 °F) is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.
 - (ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).
 - (2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.
- (d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in ' 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, ' 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

' 60.114b Alternative means of emission limitation.

- (a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in ' 60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.
- (b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.
- (c) Any person seeking permission under this section shall submit to the Administrator a written application including:
 - (1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.
 - (2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.
- (d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in ' 60.112b.

' 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in ' 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of ' 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

- (a) After installing control equipment in accordance with ' 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.
 - (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of ' 60.112b(a)(1) and ' 60.113b(a)(1). This report shall be an attachment to the notification required by ' 60.7(a)(3).
 - (2) Keep a record of each inspection performed as required by ' 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
 - (3) If any of the conditions described in ' 60.113b(a)(2) are detected during the annual visual inspection required by ' 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

- (4) After each inspection required by ' 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in ' 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of ' 61.112b(a)(1) or ' 60.113b(a)(3) and list each repair made.
- (b) After installing control equipment in accordance with ' 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.
- (1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of ' 60.112b(a)(2) and ' 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by ' 60.7(a)(3).
 - (2) Within 60 days of performing the seal gap measurements required by ' 60.113b(b)(1), furnish the Administrator with a report that contains:
 - (i) The date of measurement.
 - (ii) The raw data obtained in the measurement.
 - (iii) The calculations described in ' 60.113b (b)(2) and (b)(3).
 - (3) Keep a record of each gap measurement performed as required by ' 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:
 - (i) The date of measurement.
 - (ii) The raw data obtained in the measurement.
 - (iii) The calculations described in ' 60.113b (b)(2) and (b)(3).
 - (4) After each seal gap measurement that detects gaps exceeding the limitations specified by ' 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.
- (c) After installing control equipment in accordance with ' 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.
- (1) A copy of the operating plan.
 - (2) A record of the measured values of the parameters monitored in accordance with ' 60.113b(c)(2).
- (d) After installing a closed vent system and flare to comply with ' 60.112b, the owner or operator shall meet the following requirements.
- (1) A report containing the measurements required by ' 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by ' 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.
 - (2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.
 - (3) Semiannual reports of all periods recorded under ' 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

' 60.116b Monitoring of operations.

- (a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.
- (b) The owner or operator of each storage vessel as specified in ' 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m³ (19,813 gallons) is subject to no provision of this subpart other than those required by this paragraph.
- (c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa (0.508 psia) or with a design capacity greater than or equal to 75 m³ (19,813 gallons) but less than 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa (2.18 psia) shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
- (d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa (0.75 psia) or with a design capacity greater than or equal to 75 m³ (19,813 gallons) but less than 151 m³ (39,890 gallons) storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa (4.00 psia) shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.
- (e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.
 - (1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.
 - (2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:
 - (i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference-see ' 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

- (ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.00 psia) or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa (0.508 psia).
- (3) For other liquids, the vapor pressure:
 - (i) May be obtained from standard reference texts, or
 - (ii) Determined by ASTM Method D2879-83 (incorporated by reference see ' 60.17); or
 - (iii) Measured by an appropriate method approved by the Administrator; or
 - (iv) Calculated by an appropriate method approved by the Administrator.
- (f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.
 - (1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.
 - (2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in ' 60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:
 - (i) ASTM Method D2879-83 (incorporated by reference-see ' 60.17); or
 - (ii) ASTM Method D323-82 (incorporated by reference-see ' 60.17); or
 - (iii) As measured by an appropriate method as approved by the Administrator.
- (g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specifications of ' 60.112b is exempt from the requirements of paragraphs (c) and (d) of this section.

' 60.117b Delegation of authority.

- (a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.
- (b) Authorities which will not be delegated to States: ' ' 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

Subpart 000

Standards of Performance for Nonmetallic Mineral Processing Plants

Source: 51 FR 31337, Aug. 1, 1985, unless otherwise noted.

' 60.670 Applicability and designation of affected facility.

- (a) Except as provided in paragraphs (b), (c) and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station.
- (b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.
- (c) Facilities at the following plants are not subject to the provisions of this subpart:
 - (1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in ' 60.671, of 23 megagrams per hour (25 tons per hour) or less;
 - (2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in ' 60.671, of 136 megagrams per hour (150 tons per hour) or less; and
 - (3) Common clay plants and pumice plants with capacities, as defined in ' 60.671, of 9 megagrams per hour (10 tons per hour) or less.
- (d)
 - (1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in ' 60.671, having the same function as the existing facility, the new facility is exempt from the provisions of ' ' 60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.
 - (2) An owner or operator seeking to comply with this paragraph shall comply with the reporting requirements of ' 60.676 (a) and (b).
 - (3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of ' ' 60.672, 60.674 and 60.675.
- (e) An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983 is subject to the requirements of this part.

' 60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more process operations at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in ' 60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

- (a) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

- (b) Sand and Gravel.
- (c) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.
- (d) Rock Salt.
- (e) Gypsum.
- (f) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.
- (g) Pumice.
- (h) Gilsonite.
- (i) Talc and Pyrophyllite.
- (j) Boron, including Borax, Kernite, and Colemanite.
- (k) Barite.
- (l) Fluorospar.
- (m) Feldspar.
- (n) Diatomite.
- (o) Perlite.
- (p) Vermiculite.
- (q) Mica.
- (r) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in ' 60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens).

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) or nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

' 60.672 Standard for particulate matter.

- (a) On and after the date on which the performance test required to be conducted by ' 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which:
 - (1) Contain particulate matter in excess of 0.05 g/dscm;
 - or
 - (2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. Facilities using a wet scrubber must comply with the reporting provisions of ' 60.676 (c), (d), and (e).
- (b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in paragraphs (c), (d) and (e) of this section.
- (c) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity. (d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.
- (e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a), (b) and (c) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

- (1) No owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions except emissions from a vent as defined in ' 60.671.
- (2) No owner or operator shall cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in paragraph (a) of this section.

' 60.673 Reconstruction.

- (a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under ' 60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.
- (b) Under ' 60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

' 60.674 Monitoring of operations.

The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

- (a) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals ± 1 inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.
- (b) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

' 60.675 Test methods and procedures.

- (a) In conducting the performance tests required in ' 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in ' 60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.
- (b) The owner or operator shall determine compliance with the particulate matter standards in ' 60.272(a) as follows:

- (1) Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.
 - (2) Method 9 and the procedures in ' 60.11 shall be used to determine opacity.
- (c) In determining compliance with the particulate matter standards in ' 60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in ' 60.11, with the following additions:
- (1) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
 - (2) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
 - (3) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.
- (d) In determining compliance with ' 60.672(e), the owner or operator shall use Method 22 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.
- (e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:
- (1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:
 - (i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.
 - (ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.
- (f) To comply with ' 60.676(d), the owner or operator shall record the measurements as required ' 60.676(c) using the monitoring devices in ' 60.674 (a) and (b) during each particulate matter run and shall determine the averages.

[54 FR 6680, Feb. 14, 1989]

' 60.676 Reporting and recordkeeping.

- (a) Each owner or operator seeking to comply with ' 60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.
 - (1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:
 - (i) The rated capacity in tons per hour of the existing facility being replaced and
 - (ii) The rated capacity in tons per hour of the replacement equipment.
 - (2) For a screening operation:
 - (i) The total surface area of the top screen of the existing screening operation being replaced and
 - (ii) The total surface area of the top screen of the replacement screening operation.
 - (3) For a conveyor belt:
 - (i) The width of the existing belt being replaced and
 - (ii) The width of the replacement conveyor belt.
 - (4) For a storage bin:
 - (i) The rated capacity in tons of the existing storage bin being replaced and
 - (ii) The rated capacity in tons of replacement storage bins.
- (b) Each owner or operator seeking to comply with ' 60.670(d) shall submit the following data to the Director of the Emission Standards and Engineering Division, (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.
 - (1) The information described in ' 60.676(a).
 - (2) A description of the control device used to reduce particulate matter emissions from the existing facility and a list of all other pieces of equipment controlled by the same control device; and
 - (3) The estimated age of the existing facility.
- (c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

- (d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ± 30 percent from the averaged determined during the most recent performance test.
- (e) The reports required under paragraph (d) shall be postmarked within 30 days following end of the second and fourth calendar quarters.
- (f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in ' 60.672, including reports of opacity observations made using Method 9 to demonstrate compliance with ' 60.672 (b) and (c) and reports of observations using Method 22 to demonstrate compliance with ' 60.672(e).
- (g) The requirements of this paragraph remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected sources within the State will be relieved of the obligation to comply with paragraphs (a), (c), (d), (e), and (f) of this section, provided that they comply with requirements established by the State. Compliance with paragraph (b) of this section will still be required.

(Approved by the Office of Management and Budget under control number 2060-0050)

[51 FR 31337, Aug. 1, 1985, as amended at 54 FR 6680, Feb. 14, 1989]

Subpart A

General Provisions

for Notification, Recordkeeping, and Stack Testing

60.7 Notification and record keeping.

(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification as follows:

(1) A notification of the date construction (or reconstruction as defined under '60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

(2) A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.

(3) A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

(4) A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in ' 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

(5) A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with ' 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

(6) A notification of the anticipated date for conducting the opacity observations required by ' 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

(7) A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by ' 60.8 in lieu of Method 9 observation data as allowed by ' 60.11(e)(5) of this part. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with ' 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in ' 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in ' 60.7(c) shall both be submitted.

Figure 1 - Summary Report-Gaseous
and Opacity Excess Emission and
Monitoring System Performance

Pollutant (Circle One- SO₂ / NO_X / TRS / H₂S / CO / Opacity)
 Reporting period dates: From _____ to _____
 Company: _____
 Emission Limitation _____
 Address: _____
 Monitor Manufacturer and Model No. _____
 Date of Latest CMS Certification or Audit _____
 Process Unit(s) Description: _____
 Total source operating time in reporting period¹ _____

Emission data summary ¹	CMS performance summary ¹
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown b. Control equipment problems c. Process problems. d. Other known causes e. Unknown causes 2. Total duration of excess emission. 3. Total duration of excess emissions * _____% ² (100) [Total source operating time].	1. CMS downtime in reporting a. Monitor equipment malfunctions b. Non-Monitor equipment malfunctions c. Quality assurance calibration d. Other known causes e. Unknown cause 2. Total CMS Downtime 3. [Total CMS Downtime] * (100) _____% ² [Total source operating time]

¹ For opacity, record all times in minutes. For gases, record all times in hours.
² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in ' 60.7(c) shall be submitted.

On a separate page, describe any changes since last quarter in CMS, process or controls. I certify that the information contained in this report is true, accurate, and complete.

Name _____
 Signature _____
 Title _____
 Date _____

(e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance report (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.

(g) If notification substantially similar to that in paragraph (a) of this section is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of paragraph (a) of this section.

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

[36 FR 24877, Dec. 28, 1971, as amended at 40 FR 46254, Oct. 6, 1975; 40 FR 58418, Dec. 16, 1975; 45 FR 5617, Jan. 23, 1980; 48 FR 48335, Oct. 18, 1983; 50 FR 53113, Dec. 27, 1985; 52 FR 9781, Mar. 26, 1987; 55 FR 51382, Dec. 13, 1990]

' 60.8 Performance tests.

(a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator

- (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology,
- (2) approves the use of an equivalent method,
- (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance,
- (4) waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or
- (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors.

Nothing in this paragraph shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (1) Sampling ports adequate for test methods applicable to such facility. This includes
 - (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and
 - (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- (2) Safe sampling platform(s).
- (3) Safe access to sampling platform(s).
- (4) Utilities for sampling and testing equipment.

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 9314, Mar. 8, 1974; 42 FR 57126, Nov. 1, 1977; 44 FR 33612, June 11, 1979; 54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989]